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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/423,525	11/10/1999	BODIL ENGBERG PALLESEN	PATRADE	6840

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EXAMINER

YAO, SAM CHAUN CUA

ART UNIT

PAPER NUMBER

1733

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14

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-14

Office Action Summary

Application No.

09/423,525

Applicant(s)

PALLESEN, BODIL ENGBERG

Examiner

Sam Chuan C. Yao

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 12-28 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clarke (US 4,404,250) in view of Young (US 1,146,987).

With respect to claims 12, 23-24 and 31, Clarke discloses a process of making a consolidated fiber mat, the process comprises pre-treating a cellulose plant such as a straw, grass, bagasse, etc., using a hammer-mill or a disk refiner, to disintegrate (i.e. shorten and separate) the cellulose plant into a fibrous mass; admixing about 20-35% by weight of an organic thermosetting binder material to the fibrous mass; air-laying the fibrous mass onto a web-forming surface to form a randomly oriented fiber web; and, then heat-pressing the fiber-web to form a non-woven composite mat having inter-fiber bonds; wherein the fibers have an average length of .5-2.5 mm, and the composite mat has a thickness in the range of about .25-2.25 mm (col. 2 lines 11-55; col. 3 line 54 to col. 4 line 28; claims 1 and 8). Clarke further discloses subjecting the cellulose material to a bale-breaker before performing the disintegration process, if the cellulose material is in a bulk form (col. 4 lines 28-31). Although not expressly disclosed, it is understood that a raw cellulosic plant material is harvested in the process taught

by Clarke. Clarke is silent on how the cellulose material is obtained and prepared for disintegration process (i.e. how to soften the cellulose plant). In particular, Clarke does not teach the performing the steps of a) threshing plants and b) retting stems of the plants. However, it would have been obvious in the art to perform the recited process steps of a) harvesting and threshing plants and b) retting stems of the plants in preparing the cellulose plants for a defibration process because it is conventional in the art of making vegetable fiber mat to perform the recited process steps a) and b) in order to remove unwanted materials from the plant stems and to also softened the plants so that fibrous components in plant stems can readily be shortened and separated during a defibering/refining operation as exemplified in the teachings of Young (page 1 lines 98-112 to page 2 line 26; page 2 lines 51-94; page 3 lines 44-56).

With respect to claims 13-14, such is taken to be well within the purview of choice in the art. None, but only the expected result of obtaining a desired degree of a cellulosic plant softening for preparation for fiber separation would have been achieved.

With respect to claim 15, it is well known in the art to fibrillate fibers in order to enhance the inter-fiber bonding by forming inter-fibers mechanical entanglement and well as increasing the surface area for chemical bonding.

With respect to claim 16, it is conventional in the art to dry the fibrous mat to a desired moisture content prior to being to subjected to the final consolidation process.

With respect to claims 17-20, see column 4 lines 25-28 of the Clarke patent. Note that, Clarke teaches using cellulose fibers having an average length of about 2.5 mm. This teaching infers that, fibers in the process of Clarke can have a length which is significantly greater than 2.5 mm or even greater than 4 mm must be present. Therefore, the limitations of claims 19-20 overlap the range taught by Clarke. Moreover, Young teaches defiberizing softened plant stalks to a length of less than 25.4 mm (page 3 lines 44-50).

With respect to claims 21-22, absent any showing of unexpected benefit, since a preference on where and when to perform the retting operation is well within the purview of choice in the art, and since retting a plant material in water containing enzymes is a well known technique in the art, these claims would have been obvious in the art. Note: it is conventional in the art to subject cellulosic plants to either chemical and/or biological retting treatment to soften the plants.

With respect to claim 25, since Clarke is not restrictive on the type of cellulose materials and also teaches using a straw; and since it is well known in the art to use flax straws in forming the type of fibrous articles taught by Clarke; and since it is a common practice in the art to interchangeably use a straw, hemp, bagasse, and other cellulose materials in forming the type of fibrous web articles taught by Clarke, this claim would have been obvious in the art. Moreover, Young teaches liberation of hemp fibers (page 1 lines 8-17).

With respect to claims 26-28, since formation of unwanted fine particles or dust is a common result of a hammer-mill process; since it is a well known in the art to separate these unwanted fine particles or other contaminant such as dirt or stones from fibers of desired dimension using a rotary riddle; and since it is also conventional in the art to dry-form a fibrous mat by blowing fibers into a forming head disposed above a forming wire, this claim would have been obvious in the art.

With respect to claims 32-35, since the recited density range is conventional in the art; and since the composite web of Clarke is taken to be naturally capable of absorbing shock, load, sound, etc.; claims 32-33 would have been obvious in the art. As for the limitations in claims 34-35, see column 6 lines 7-33. The resin impregnated alpha cellulose paper is taken to be a molded composite product and/or a strongly reinforced composite product.

3. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 2 as applied to claim 12 above, and further in view of either Gould et al (US 4,997,488) or Mita et al (US 4,851,082).

With respect to these claims, the recited pre-treatment process in these claims are well known in the art of defibering cellulose materials such as flax straw, hemp, etc. in order to soften up the cellulose material for refining as exemplified in the teachings of Gould et al or Mita et al, and since it is conventional in the art to dry treated fibers prior to air-laying, these claims would have been obvious in the art.

4. Claims 12-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (US 1,146,987) in view of any one of Desverschere (US 4,106,163), Clarke (US 4,404,250), WO 98/01611, and Garrett (US 5,021,529).

With respect to claim 12, Young discloses a process of de-fiberizing hemp plants, the process comprises providing the plants "*obtained from the field*" in their "*natural condition*" (i.e. taken to be harvesting; page 1 lines 18-27); threshing the plants (page 1 line 108 to page 2 line 26), chemically retting the stalks of the plants (page 2 lines 51-94), feeding the stalks between "*crimping rolls ... to break the hulls of the stalk transversely into small pieces less than an inch long*" to isolate "*the fibers from the hulls*" (page 3 lines 44-56). Young is silent on end-use of the resultant fibers (i.e. what type of fiber articles to make). In particular, Young does not teach randomly air-laying fibers to a collector to form a fiber web, and then bonding the fiber web. However, these process steps would have been obvious in the art because it is conventional in the art to randomly air-lay fibers to a collector to form a fiber web and then to bond the fiber web in forming various fiber web articles as exemplified by anyone of Desverschere (abstract; figure 1), Clarke (col. 3 line 54 to col. 4 line 31), WO '611 (figures 1-7), and Garrett (col. 1 line 13 to col. 2 line 24).

With respect to claims 13-35, for essentially the same reasons as numbered paragraphs 2-3, these claims would have been obvious in the art making various fiber web articles using the technique of Young to soften cellulosic plants or to form fibers from cellulosic plants.

Respons to Arguments

5. Applicant's arguments with respect to claims 12 and 29-30 have been considered but are moot in view of the new ground(s) of rejection.

Remarks: contrary to Counsel's assertion on page 4 full paragraph 5, there is no disconnect between combined references applied in the prior office action. The secondary references were used as evidence to show that the recited process steps (i.e. threshing and retting) to soften cellulosic plants are conventional in the art. In fact, a plant treatment process which comprises harvesting, threshing, retting, and then defiberizing is a very old technique in the art. It is respectfully submitted that, one in the art, motivated by the desire to soften cellulosic plants so that the plants can readily be defiberized by hammermilling or disk-refining as suggested by Clarke, would have amply been motivated to incorporate the teachings of WO '611 or Young.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (703) 308-4788. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7115 for regular communications and (703) 305-7718 for After Final communications.

Art Unit: 1733

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Sam Chuan C. Yao

Primary Examiner

Art Unit 1733

scy

December 10, 2002